

FriendlyNet Hub

**5-Port or 8-Port
Ethernet Hub**

User's Manual

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This device complies with part 15 of the FCC Rules. Operation is subject to the following two conditions: (1) this device may not cause harmful interference and (2) this device must accept any interference received, including interference that may cause undesired operation.

Operation of this equipment in a residential area is likely to cause interference, in which case, the user, at his or her own risk and expense, will be required to correct the interference.

Declaration of Conformity

Asanté Technologies, Inc. declares that the FriendlyNet Ethernet Hub conforms with the following standards, in accordance with the provisions of the EC Directive 89/336/EEC: EN 55022:1994, EN50082-1:1992, IEC 801-2, IEC 801-3, IEC801-4:1988.

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This warranty is exclusive and is limited to the FriendlyNet Ethernet Hub. This warranty shall not apply to products that have been subjected to abuse, misuse, abnormal electrical or environmental conditions, or any condition other than what can be considered normal use.

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Introduction

Introducing the FriendlyNet Ethernet Hub

Thank you for purchasing the Asanté FriendlyNet 5-port or 8-port Ethernet Hub.

The FriendlyNet Hub provides your network with up to 5 or 8 Unshielded Twisted Pair (UTP) port connections.

5-port FriendlyNet Hub

The 5-port FriendlyNet Hub (FH10T5) comes with five RJ-45 ports for connecting to 10Base-T network stations and one UPLINK (cascade) port for connecting to another hub.

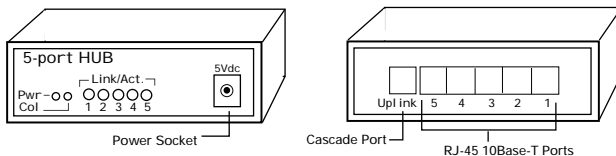


Figure 1-1 5-port FriendlyNet Hub, front and rear views

8-port FriendlyNet Hub

The 8-port FriendlyNet Hub (FH10T8) comes with eight RJ-45 ports for connecting to 10Base-T network stations and one UPLINK (cascade) port for connecting to another hub.

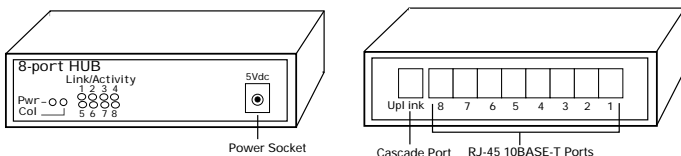


Figure 1-2 8-port FriendlyNet Hub, front and rear views

Introduction

The FriendlyNet Hub constantly monitors its ports for signal quality and automatically partitions a port producing noise or excessive collisions; the device automatically reconnects when the error condition is cleared.

The FriendlyNet Hub automatically truncates data packets that exceed the maximum length for IEEE 802.3, preventing a device from blocking the network by transmitting continuous data streams or extra long packets.

Features

- ❑ Plug-and-Play installation.
- ❑ Connects up to five (5-port hub) or eight (8-port hub) 10Base-T devices.
- ❑ Accommodates cascaded bus or daisy-chain Ethernet topologies; up to 98 ports can be easily daisy-chained per Ethernet segment (using 8-port hubs).
- ❑ Provides preamble regeneration, single retiming and restoration, and jabber function for automatic partitioning.
- ❑ Contains power and collision LEDs as well as individual port Link/Activity LEDs to aid network diagnosis and management.
- ❑ Compact design; install on desktop or mount on wall.

Package Contents

- ❑ 5-port (**FH10T5**) or 8-port (**FH10T8**) FriendlyNet Ethernet Hub
- ❑ External power adapter
- ❑ Four self-adhesive rubber “feet”
- ❑ One wall-mount kit (two tapping screws and two screw anchors)
- ❑ User’s Manual

2

Installation

Before You Start

- ▲ **Important:** Check the AC power line voltage used in your area. The AC power adapter included with your hub must match the power supply voltage used in your area.
 - ❑ **AC input power:** equal to the AC power voltage used in your area
 - ❑ **DC output power:** 5V 800mA

Installation Overview

Before you connect the FriendlyNet Hub to other devices, review the following guidelines:

- ❑ Make sure the network cable length is **less than 100 meters**.
- ❑ Use a **straight-through** twisted pair wire.
- ❑ When connecting two hubs together (cascading hubs), make sure the primary hub's IN port is connected to the secondary hub's UPLINK port.
- ❑ Network cable segments can be connected to, or disconnected from, the FriendlyNet Hub while the power is on.
- △ **Note:** The installation diagrams in this section pertain to both the 5-port and 8-port FriendlyNet Hub.

10Base-T Station to Hub Connection

To connect a 10Base-T network station to the FriendlyNet Hub, follow the instructions and diagram below.

- ▲ **Important:** Use a **straight-through** network cable. Make sure the length of the cable between the station and hub does NOT exceed 100 meters (including all patch cables and cross-connect wires).

Network cable segments can be connected to, or disconnected from, the hub while the power is on.

- 1 Connect one end of the network cable to an RJ-45 port on the FriendlyNet Hub. ①
- 2 Connect the other end of the cable to the network station's Ethernet adapter. ②

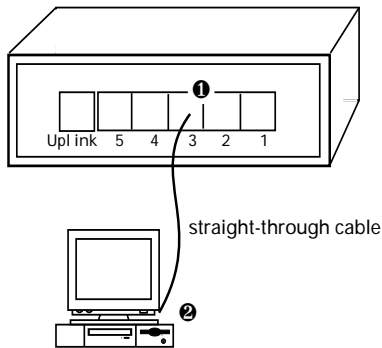


Figure 2-1 Connecting a 10Base-T station to the FriendlyNet Ethernet Hub

Hub to Hub Connection

To connect two FriendlyNet Hubs, follow the instructions and diagram below.

- ▲ **Important:** Use a **straight-through** network cable. Make sure the distance between the two hubs does NOT exceed 100 meters.

FriendlyNet Hubs may be interconnected as long as the path between any two network stations does not exceed **FOUR** hubs and **FIVE** cable segments.

- 1 Connect one end of the network cable to the **UPLINK** port on one of the FriendlyNet Hubs. ①
- 2 Connect the other end of the cable to an **RJ-45** port on the other FriendlyNet Hub. ②

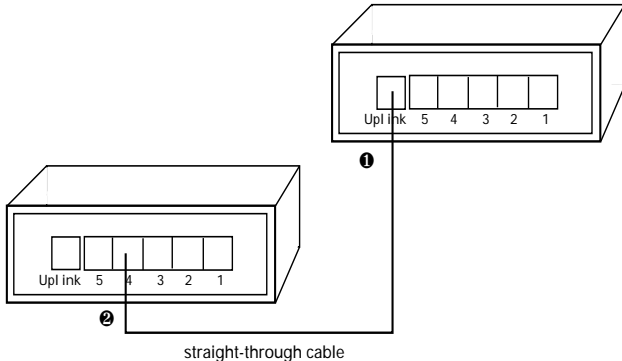


Figure 2-2 Connecting two FriendlyNet Ethernet Hubs

Multiple Hub and Station Configuration

To connect multiple FriendlyNet Hubs and Ethernet network stations, follow the guidelines and diagram below.

- ▲ **Important:** Your Ethernet network configuration must comply with the IEEE 802.3 standard.
- ❑ The maximum number of cable segments between any two network stations is FIVE.
- ❑ The maximum number of hubs between any two network stations is FOUR.
- ❑ At a maximum, you may install up to 16 8-port hubs and connect up to 98 network stations in a 10Base-T configuration.

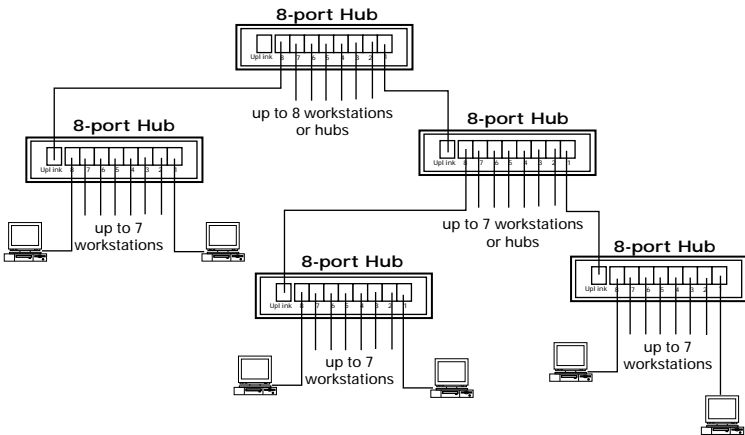


Figure 2-3 Connecting multiple FriendlyNet Ethernet Hubs and network stations

Wall Mounting the FriendlyNet Hub

The FriendlyNet Ethernet Hub can be mounted to a wall or to the surface of a countertop using the screws included with the hub.

To mount the hub to a wall or countertop:

- 1 Screw one of the enclosed 1/2-inch screws into a wall (or countertop), leaving approximately 1/4 inch of the screw's threads exposed.
- 2 Hang the hub on the wall (or secure it to the countertop) using the keyholes on the bottom of the hub. See Figure 2-4.

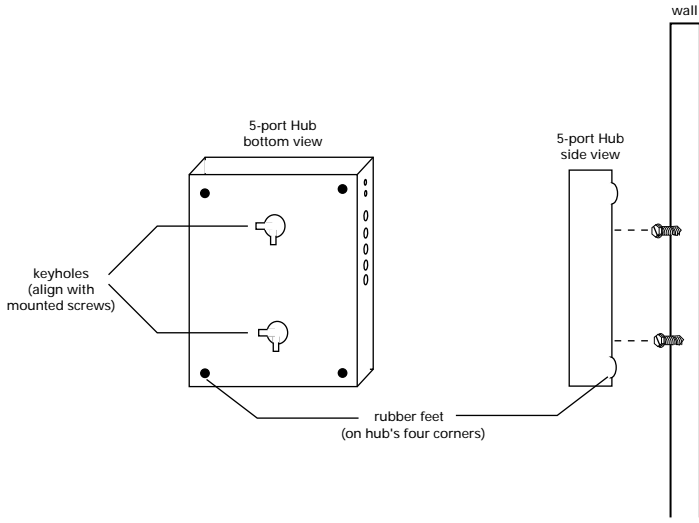


Figure 2-4 Wall-mounting a FriendlyNet Ethernet Hub

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LED Indicators

LED Indicators

The FriendlyNet Ethernet Hub contains the following LEDs:

- ❑ Power LED
- ❑ Collision LED
- ❑ Link/Activity LED for each port

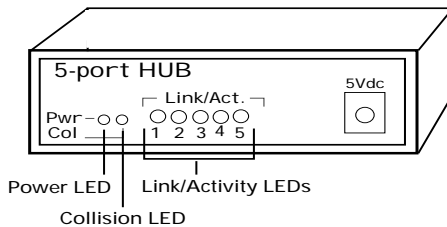


Figure 3-1 FriendlyNet (5-port) Ethernet Hub LEDs

Power LED

The green PWR (power) LED on the hub's front panel illuminates when the hub is receiving power and is turned on.

Collision LED

The yellow COL (collision) LED on the hub's front panel illuminates when two or more stations on the network attempt to transmit packets simultaneously.

Collisions are normal in Ethernet networks. Excessive collisions may indicate that your network is congested.

LED Indicators

Link/Activity LEDs

The green Link/Activity LEDs, associated with each 10Base-T port, illuminate if a twisted-pair link is connected.

Table 3-1 Link/Activity LEDs

On	<ul style="list-style-type: none">• Normal data/link pulse reception
Off	<ul style="list-style-type: none">• No twisted-pair cable connected• Link pulse disabled at other end• No power to the hub• Twisted-pair connection faulty• Non-10Base-T device at other end• Twisted-pair cable exceeds recommended length
Blinking	<ul style="list-style-type: none">• Receiving network traffic

A

Ethernet Configuration

Ethernet Configuration

This section describes the star topology Ethernet configuration. It is intended to help you make the proper connections for your Ethernet networking system.

Star Topology

A 10Base-T Ethernet network is configured in a star topology (see Figure A-1).

A star topology is a physical topology in which multiple nodes are connected to a central component, generally known as a hub or repeater.

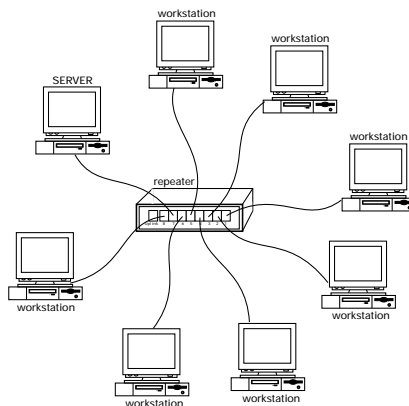


Figure A-1 Star topology

A star topology is easy to troubleshoot, since each segment supports only a single attachment. A star topology must comply with the IEEE 802.3 connection rules.

B

Specifications

FriendlyNet Ethernet Hub Specifications

IEEE 802.3 Compliance

- 10Base-T

Network Interface and Cable Specifications

- RJ-45 port: five or eight connectors for use with 10Base-T cabling

Maximum Segment Lengths

- 10Base-T (UTP): 100 meters maximum (24 AWG recommended)

LED Indicators

- Unit: Power and Collision
- 10Base-T ports: Link/Activity

Physical Dimensions

- 8-port Hub: 145mm x 78mm x 26mm (L x W x H)
- 5-port Hub: 100mm x 78mm x 26mm (L x W x H)

Environment

- Temperature
 - Operating: 0° C to +50° C
 - Storage: -20° C to +70° C

Specifications

- Humidity
 - Operating: 10% to 80% RH
 - Storage: 5% to 90% RH
- Input Power Requirements
 - Voltage: AC voltage to 5VDC external power
 - Frequency: 47Hz to 63Hz

Standards Compliance

- FCC Class A
- CE

C

Technical Support

Contacting Technical Support

To contact Asanté Technical Support:

Telephone	(800) 622-7464 (408) 435-0706
Fax	(408) 432-6018
Fax-Back	(800) 741-8607 (408) 954-8607
Internet Mail	support@asante.com
World Wide Web Site	http://www.asante.com
Bulletin Board Service (BBS)	(408) 432-1416
ARA BBS (guest log-in)	(408) 894-0765
AppleLink Mail/BBS	ASANTE
FTP Archive	ftp.asante.com

Technical Support Hours

6:00 a.m. to 6:00 p.m. Pacific Time USA, Monday - Friday.



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